Department of Defense
Executive Assessment of Safety and Occupational Health Management Systems

Submitted to:

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Secretary of Defense

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EXECUTIVE SUMMARY

In May 2001, the National Safety Council (NSC) proposed a partnership with the Department of Defense (DoD) to work together on critical safety and health initiatives. The Secretary of Defense accepted the offer, and the NSC began its work in August by assembling a panel of experts from industry, labor and the government. This expert panel was charged with the task of helping the DoD improve its operational readiness capabilities. The focus of this study was an executive assessment of DoD's safety and occupational health management systems.

Although the Panel's review identified many areas of occupational safety and health excellence, **the major finding of the NSC assessment was the lack of an effective Department-wide safety and occupational health management system.** This deficiency has serious consequences for the Department's mission because preventable injuries and illnesses absorb substantial human and financial resources that are needed for operational readiness. The NSC Panel was unable to precisely determine the full cost impact of these preventable incidents throughout the DoD because aggregate data were not available. The NSC Panel has conservatively estimated that the annual cost of injuries and illnesses for the DoD ranges from $10 billion to over $21 billion.[1]

The DoD does not view occupational injury and illness loss as a key readiness concern that requires Department-level management commitment and leadership. The NSC panel found that, in the DoD, safety and occupational health generally have low visibility. There is no central, corporate management system to ensure coordinated policy, advocacy and oversight. The DoD lacks the data system to collect and analyze fundamental information needed for sound decision-making with respect to occupational injuries and illnesses.

The nation's leading businesses see the prevention of injuries and illnesses as a core business value that reduces human, social, financial and productivity costs and improves the bottom line. DoD also has a bottom line: operational readiness. Like industry, it needs to manage injuries and illnesses and reduce their adverse impact on operational readiness. DoD needs to integrate safety and occupational health into its overall management system. This effort will require senior leadership commitment and the development of new system components to ensure continuous improvement of safety and occupational health performance throughout the Department.

The NSC Panel conducted a high-level review of the management systems used in the DoD for safety and occupational health. Its principal recommendations follow.

[1] Appendix E describes the methodologies and assumptions employed in developing this estimate.

PRINCIPAL RECOMMENDATIONS

The Secretary of Defense should take the following actions to demonstrate that safety and occupational health are core values within the DoD:

- Demonstrate a continuing, strong, personal commitment to safety and occupational health within the DoD.

- Establish safety and health as an executive-level business responsibility by assigning overall system oversight to an existing executive-level committee reporting directly to the Deputy Secretary of Defense. Include safety and occupational health as an integral part of both the Defense Planning Guidance and Medical Planning Guidance systems.

- Provide the DoD safety and occupational health office with the authority, personnel and resources to meet its responsibility for the policy, advocacy and oversight of safety and occupational health issues within the Department.

- Establish a uniform performance measurement system within the DoD that provides senior management with the information necessary to ensure continuous improvement of safety and occupational health performance. The system should allow management to determine the human, financial and operational readiness impact of occupational injuries, illnesses and deaths.

APPENDIX E - COST METHODOLOGY

DoD Safety and Occupational Health Costs

It is important to state at the outset that the NSC panel was unable to find a way to assess the total OSD and military service cost of injuries and illnesses – direct and indirect – consistent with standard industry practices. Much of the data needed for this analysis was unavailable. NSC could not find the proper data, nor could the OSD (or the Military Services) provide it. The NSC Panel considers this omission a major managerial shortfall because injury and illness loss data is fundamental information needed for sound, executive decision-making.

The lack of data forced the NSC to make many assumptions, and we did so very conservatively. We used two methodologies. Both methodologies are problematic because key data elements are missing. In addition, both methodologies are very conservative. Our estimates for annual OSD and Services injury and illness loss range from $10 billion to $21 billion. The methodologies are described below.

Methodology A: Civilian FECA extrapolation - $10 billion per year.

The FY 2000 FECA cost for DoD's 659,000 civilians is $615,000,000. With 1.4 million uniformed personnel, the civilian to uniformed personnel ratio is 1:2.12. Using the civilian FECA costs as a base, the annual cost for hospitalization, disability and compensation for uniformed personnel is $1.3 billion. This total does not include such cost elements as death and/or termination compensation, sick leave, outpatient medical expenses and long term compensation, which are paid for by the government for uniformed personnel. Data for these costs were not available for the assessment.
Total direct costs are $2 billion per year.

The NSC multiplied direct costs by a factor of 4** to obtain indirect costs, which include such avoidable costs as those to train and compensate a replacement worker, repair or replace damaged property, investigate the accident and implement corrective action, and maintain insurance coverage. Other productivity loss costs include those expenses related to schedule delays, added administrative time, increased insurance premiums, lower morale, increased absenteeism, and poorer customer relations. The NSC felt that a factor of 4 was conservative, especially considering the unique and specialized infrastructure and equipment requirements of the Services.
Total indirect costs are $7.7 billion annually.

Total annual injury and illness costs are $10 billion.

** Only further research will reveal the exact indirect cost ratio. Studies show that the ratio of indirect costs to direct costs varies widely, from a high of 20:1 to a low of 2:1. For the purposes of this assessment, we are using a conservative ratio of 4:1.

Sources: OSHA's webpage: "$afety Pays" Expert System

Business Roundtable, Improving Construction Safety Performance: A Construction Industry Cost Effectiveness Project Report, Report A-3, January, 1982

Methodology B: Partial Aggregate Cost Computation - $21 billion per year.

For this approach, the NSC searched for aggregate costs that would be considered an injury or illness expense. Fortunately, the OSD and the services do collect an abundance of information. However, much of it is inconsistent and cannot be consolidated into a cohesive and comprehensive picture of injury and illness cost for uniform and civilian personnel either within a single service, much less across the DoD. The data is derived from multiple databases, each with different data definitions, elements and collection methodologies. Consequently, the NSC had to make many assumptions.

The chart below outlines the NSC's data sources and computations. The methodology, including assumptions, is described in the footnotes.

Type of Cost	Civilian	Military	Total
Direct Costs: 1.Worker Compensation	$ 615 million [1]	$ 888 million [2] $ 432 million [2]	$ 1.93 billion
2. Boarded out to the Veterans Administration	N/A	$ 2.2 billion[3]	$ 2.2 billion
Subtotal	$ 615 million	$3.2 billion	$ 4.1 billion
Indirect Costs: Include training, retraining, replacement, work stoppage and productivity loss. A factor of 4 times the Direct Cost	x 4 [4]	x 4 [4]	x 4 [4]
Subtotal	$ 2.46 billion	$ 14.08 billion	$ 16.5 billion
Total	$ 3.1 billion	$ 17.6 billion	$ 20.6 billion

About the data. Loss data for DoD civilian employees is derived directly from FECA data (Federal Employees' Compensation Act). This data is equivalent to workers' compensation data in the private sector. Since comparable data is not collected for uniformed personnel, we have partially replicated this cost from discrete sources. Off-duty losses for uniformed personnel have been included in the total cost because these employees need to be available 24 hours a day.

[1]**Civilian Workers' Compensation** data is from U.S. Department of Labor (the Office of Workers' Compensation Programs), FECA. Data provides workers' compensation for occupational injury costs charged to Federal employing agencies for FY2001. Total = $614,966,821

[2]**Uniformed personnel workplace compensation.** Uniform workers' compensation costs are based on best available data and are a combination of Class A-C Mishap and hospitalization data.

Of the total, $888 million is from Class A, B and C Mishaps for FY94. (Source: *Atlas of Injuries in the U.S. Armed Forces*, Air Force pp 3-77; Marines pp 3-51; Navy pp 3-23; Army pp 3-21). Class A data consists of fatality or permanent total disability, incidents with a loss of at least $1 million, and/or aircraft, missile or spacecraft destroyed. Class B includes permanent partial disability, or five or more people hospitalized as inpatients and incidents resulting in costs over $200,000 but under $1 million. Class C includes lost time and incidents resulting in cost between $10,000 and $200,000.

Unlike FECA data, however, Class A Mishap data includes equipment losses, which can be significant. Because equipment expenses could not be separated from disability and compensation costs, they were kept as a direct expense, rather than an indirect cost, which may be more appropriate.

$432 million is based on FY 94 uniformed personnel hospitalization rates. (Source: *Atlas of Injuries in the U.S. Armed Forces*, Air Force pp 5-95; pp 5-71 Marines; Navy pp 5-49; Army pp 5-13). We are treating all of the hospitalization as injury and trauma events.

In FY 1994, there were 170,000 hospitalization events, and we are assuming that this is an average annual rate that can be applied to FY 2000. Deduct an all service average of 10 percent for pregnancies. (Source: *Atlas of Injuries in the U.S. Armed Forces).* Deduct another 8 percent for hostile, assault and self-inflicted injuries (Source: Amoroso, Paul, et al. Viewpoint: A comparison of Cause-of-injury coding in U.S. Military and Civilian Hospitals, *Am J Pre Med* 2000;18(3S):169). Multiply the total of 139,230 events by $3,100 - FY 2000 per event average. (Source: Surgeon's General Office, U.S. Navy).

[3]**Veterans Administration**. The life-cycle cost of injuries and illnesses includes costs for long term compensation and medical care for uniformed personnel who have been discharged from the military for their disability. The Veterans Administration is responsible for these cost, which for FY 2000 exceeded $22 billion. Since the VA does not track causes of disability, we conservatively estimated that 10 percent of the population administered by the VA were discharged from the service for an occupational injury or illness.

[4]**Indirect Costs.** Indirect costs are described above. These costs are substantial and have not been researched by the OSD or the Services. We are assuming that their costs will be higher than those in general industry because of DoD's mission, and we are using an indirect cost factor of 4.